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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,823	04/30/2001	Ted E. Dunning	22227-04647	5884

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EXAMINER

RETTA, YEHDEGA

ART UNIT PAPER NUMBER

3622

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,823

Applicant(s)

DUNNING ET AL.

Examiner

Yehdega Retta

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-97 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-97 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/30/04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This office action is in response to amendment filed October 17, 2005. Applicant amended claims 1, 34, 39, 59 and 93. Claims 1-97 are still pending.

Claim Rejections - 35 USC § 112

Claims 1-33 and 39-92 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1, 39 and 59, a method or system to generate user log scores based **exclusively on the detected (which implies implicit) user behavior** was not described in the specification. Applicant's specification discloses recommendation made based on implicit and explicit data.

Claim Rejections - 35 USC § 102

Claims 1, 4-27, 32, 33, 39, 42-59, 62-85, 91 and 92 are rejected under 35 U.S.C. 102(e) as being anticipated by Hosken U.S. Patent No. 6,438,579.

Regarding claim 1, Hosken teaches accepting, in a computer, item selections detected from a plurality of users (see fig. 2 (60)); generating a log for each user (64), each log containing identifiers corresponding to user item selection; accepting query; scoring (weighing) user logs (profile) (56), responsive to a degree of occurrence (number of time an item occurs in the cluster see col. 15 line 15 to col. 16 line 21) to the query item (70) and the detected user item selection (log); determining at least one result item responsive (72) to a degree of occurrence in at least a

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subset of scored user logs (see abstract, col. 2 line 52 to col. 3 line 34, col. 5 line 8 to col. 6 line 38 and col. 9 lines 23-65); Hosken filtering and weighting method provides scoring and determining a result, based on the number of times an item appears, i.e., an item with higher weight factor (see also fig. 7A –7C).

Regarding claims 4-11, Hosken teaches video track or music track, generating track list containing an identifier for each determined result. Hosken teaches recommending music and video and other media content items based on similarity in profile between the user and other users (see abstract and col. 11 line 1 to col. 13 line 30 and col. 14 line 40 to col. 16 line 21).

Regarding claims 12 and 13, Hosken teaches accepting selection; input specifying an item purchase by user, provided via web page (see col. 3 lines 17-34, col. 4 lines 11-55, col. 5 lines 20-62).

Regarding claim 14, Hosken teaches defining a subset of the scored user logs (see col. 15 line 10 to col. 16 line 21).

Regarding claims 15-27, Hosken teaches monitoring user behavior and adjusting the user log ... outputting advertisement ...(see col. 5 line 20 to col. 6 line 67 and col. 8 line 38 to col. 11 line 19).

Regarding claims 32 and 33, Hosken teaches deleting item selected by user from the determining at least one result, ranking the result responsive to the degree of significance (see col. 16 lines 24-53).

Claims 39 and 59 are rejected as stated above in claim 1.

Claims 42-45 and 62-69 are rejected as stated above in claims 4-11.

Claims 70 and 71 are rejected as stated above in claims 12 and 13.

Claim 72 is rejected as stated above in claim 14.

Claims 46-58 and 73-85 are rejected as stated above in claims 15-27.

Claims 91 and 92 are rejected as stated above in claims 32 and 33.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 28-31, 34-38, 40, 41, 60, 61, 86-90, 93-97 are rejected under 35

U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579 further in view of Lazarus U.S. Patent No. 6,430,539.

Regarding claims 2, 3, 40, 41, 60, 61 and 86 Hosken does not explicitly teach significance of occurrence being determined by a log of likelihood ratio analysis or a substantial equivalent of a log of likelihood ratio analysis, it is taught by Lazarus (see col. 22 line 19 to col. 25 line 53). Lazarus teaches use of a log of likelihood ratio or an equivalent analysis to determine significance of occurrence (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much

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better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Regarding claims 28-31, 34-38, 87-90, 93-97, Hosken teaches determining a total number of users, determining a subset of user, determining the items selected or not selected by the subsets and use of correlation algorithm to determine the correlation between the cluster and the user (see col. 15 line 10 to col. 16 line 21). However Hosken failed to explicitly teach the correlation algorithm as a log likelihood ratio, it is disclosed in Lazarus (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Even though Applicant has not provided support for the claimed feature of “generate user log scores based exclusively on detected user item selections”, Examiner provides the rejection stated below in order to provide a compact prosecution.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-27, 32, 33, 39, 42-59, 62-85, 91 and 92 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.S. Patent No. 6,438,579.

Regarding claim 1, Hosken teaches accepting item selection detected from a plurality of users; generating log containing identifiers for user's corresponding to detected user item selection; accepting query; scoring user logs, responsive to a degree of occurrence to the query item, so as to generate user log scores based exclusively on detected user item selections (implicit) and the at least one query item; determining at least one result item in a subset of scored user logs (see abstract, col. 2 line 52 to col. 3 line 34, col. 5 line 8 to col. 6 line 38 and col. 9 lines 23-65). Hosken discloses that the user may explicitly enter music items and ratings or the system may derive **implicit ratings of music items based on system-based observations (detected) of user actions** and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken. It is also well settled that the elimination of an element or its functions is an obvious expedient if the remaining elements perform the same functions as before - *In re Karlson*, 136 USPQ 184, 186; 311 F.2d 581 (CCPA 1963).

Regarding claims 4-11, Hosken teaches video track or music track, generating track list containing an identifier for each determined result. Hosken teaches recommending music and

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video and other media content items based on similarity in profile between the user and other users (see abstract and col. 11 line 1 to col. 13 line 30 and col. 14 line 40 to col. 16 line 21).

Regarding claims 12 and 13, Hosken teaches accepting selection; input specifying an item purchase by user, provided via web page (see col. 3 lines 17-34, col. 4 lines 11-55, col. 5 lines 20-62).

Regarding claim 14, Hosken teaches defining a subset of the scored user logs (see col. 15 line 10 to col. 16 line 21).

Regarding claims 15-27, Hosken teaches monitoring user behavior and adjusting the user log ... outputting advertisement ... (see col. 5 line 20 to col. 6 line 67 and col. 8 line 38 to col. 11 line 19).

Regarding claims 32 and 33, Hosken teaches deleting item selected by user from the determining at least one result, ranking the result responsive to the degree of significance (see col. 16 lines 24-53).

Claims 42-45 and 62-69 are rejected as stated above in claims 4-11.

Claims 70 and 71 are rejected as stated above in claims 12 and 13.

Claim 72 is rejected as stated above in claim 14.

Claims 46-58 and 73-85 are rejected as stated above in claims 15-27.

Claims 91 and 92 are rejected as stated above in claims 32 and 33.

Claims 2, 3, 28-31, 34-38, 40, 41, 60, 61, 86-90, 93-97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosken U.s. Patent No. 6,438,579 further in view of Lazarus U.S. Patent No. 6,430,539.

Regarding claims 2, 3, 40, 41, 60, 61 and 86 Hosken does not explicitly teach significance of occurrence being determined by a log of likelihood ratio analysis or a substantial equivalent of a log of likelihood ratio analysis, it is taught by Lazarus (see col. 22 line 19 to col. 25 line 53). Lazarus teaches use of a log of likelihood ratio or an equivalent analysis to determine significance of occurrence (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38).

Regarding claims 28-31, 34-38, 87-90, 93-97, Hosken teaches determining a total number of users, each group containing information detected from implicit use behavior, (see fig. 2 (70, 68, 64)); determining a subset of user, determining the items selected or not selected by the subsets and use of correlation algorithm to determine the correlation between the cluster and the user (see col. 15 line 10 to col. 16 line 21). However Hosken failed to explicitly teach the correlation algorithm as a log likelihood ratio, it is disclosed in Lazarus (see abstract, col. 4 lines 24-67 and col. 39 lines 13-53). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use Lazarus's predictive model in Hosken's recommendation system since a log of likelihood ratio or equivalent ratio analysis overcomes the problem of small count situations and have much better small count behavior while at the same time retaining the same behavior in the non-small count regions as taught by Lazarus (see col. 24 line 44 to col. 25 line 38). Hosken discloses that the user may explicitly enter music items and ratings or the

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system may derive implicit ratings of music items based on system-based observations of user actions and the system making recommendation based on the input (see col. 14 lines 13-20). It would have been obvious to one of ordinary skill in the art at the time of the invention to implement selected features of Hosken. Omitting Hosken's collection of explicit user profile, by interviewing or surveying users, would cost less to operate the system. Also it would have been obvious to one of ordinary skill in the art to provide recommendation from implicit user profile only to those who are not willing to participate in the interview or survey of Hosken.

Response to Arguments

Applicant's arguments filed October 10, 2005 have been fully considered but they are not persuasive.

Applicant amendment did not overcome the "112" rejection. Applicant states that the applicant reserve the right to reintroduce the subject matter cancelled from these claims. Examiner would like to point out since the cancelled subject matter was due to new matter issue if applicant reintroduces the subject matter the claim would fail to comply with the enablement requirement.

In regard to the applied art, Applicant argues that Hosken is not a prior art. In order for Hosken to be considered prior art it is necessary to rely on the filing data of the provisional application, which requires that a showing be made to establish that the provisional application provides full support.

The provisional application provides full support for applicant's claimed invention. The provision application teaches accepting item selection (user choosing an item); generating user

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log (profile based on implicit and explicit rating data for music provided by users) containing identifiers (vectors) corresponding to detected user item (see pp 5 lines 6-20); accepting a query (selection) and scoring (correlating similarity between the user ratings and other users' rating and determining weigh for each item to give rating weight (see pp 11 line 4 to pp. 12 line 6) being responsive to a degree of occurrence of the item identifier in the user logs (weight for each item determined by multiplying the correlation with the rating to give the correlated rating weight (pp 8 lines 14-25); determining at least one result item (recommendation) (see pp 10-13 and abstract and fig. 2b to fig. 5).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

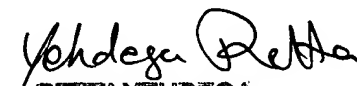
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yehdega Retta whose telephone number is (571) 272-6723. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber can be reached on (571) 272-6724. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YR


RETTAYEHDEGA
PRIMARY EXAMINER